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Zn metabolism of monogastric species and consequences for the definition of feeding requirements and the estimation of feed Zn bioavailability

Key words: Monogastric species, Zinc metabolism, Requirement, Bioavailability, Experimental modelling

This review article summarizes the most important aspects of Zn homeostasis in monogastric species, including molecular aspects of Zn acquisition and excretion:

- Basic principles of zinc metabolism
- The role of the skeleton as a reservoir for mobilizable Zn
- The interaction of exogenous pancreatic activity and Zn metabolism

In context to the prinicples of monogastric Zn metabolism, we further discuss consequences arising for the experimental design of Zn trials *in vivo*:

- What are the benefits of subclinical vs. clinical Zn deficiency models?
- How is the measurement of Zn bioavailability related to the estimation of Zn feeding requirements?
- What is a suitable Zn status parameter?
- How do the chemical interactions in the intestinal lumen affect Zn supplementation strategies?